

Selected Response Multiplication Practice
Grade 3 & 4

Grade 3 Standards: NS2.2/30A7

Grade 4 Standards: NS 3.3/4NBT5

Prior Knowledge: Students have had multiple opportunities to practice the multiple methods for showing how to solve a multiplication problem prior to this activity.

Objective: Students will practice (in cooperative groups) identifying multiple correct responses to problem solving questions as well as correcting incorrect responses using the strategy identified as incorrect.

Preparation: Copy the questions that follow and place them around the perimeter of the classroom for cooperative practice that follows the review. Depending on the size of the class, and how many students you want working in each group (not more than 3), you may want to make 2 or 3 copies of each question. Questions should be placed clockwise around the room so that once the first problem is completed and students have been given instructions to move, they simply move forward to the next station (problem).

Introduction: Allow students to *Think, Pair, Share* some of the multiple ways they know how to multiply and record the responses.

“We Do #1”

Show side by side the multiple ways to solve the problem that follows. Draw attention to importance of syntax and relationships between the multiple methods (i.e. the product of the tens place and the ones place in each method can be found repeatedly). SEE LAST PAGE FOR POSTER THAT MODELS ALL STRATEGIES WITH PROPER SYNTAX.

The school carnival is being planned. The fourth grade is going to sell hot dogs. If they purchase 62 packages of hot dogs and each package has 8 hot dogs, how many hot dogs will they have to sell?

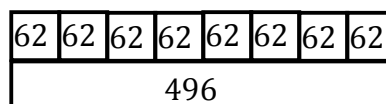
Partial Product

$$\begin{array}{r} 62 \\ \times 8 \\ \hline 16 \\ + 480 \\ \hline 496 \end{array}$$

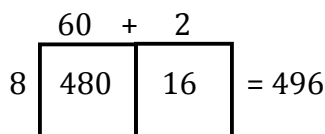
Distributive Property

$$\begin{aligned} &(60 \times 8) + (2 \times 8) \\ &= 480 + 16 \\ &= 496 \end{aligned}$$

Bar Model



Area Model



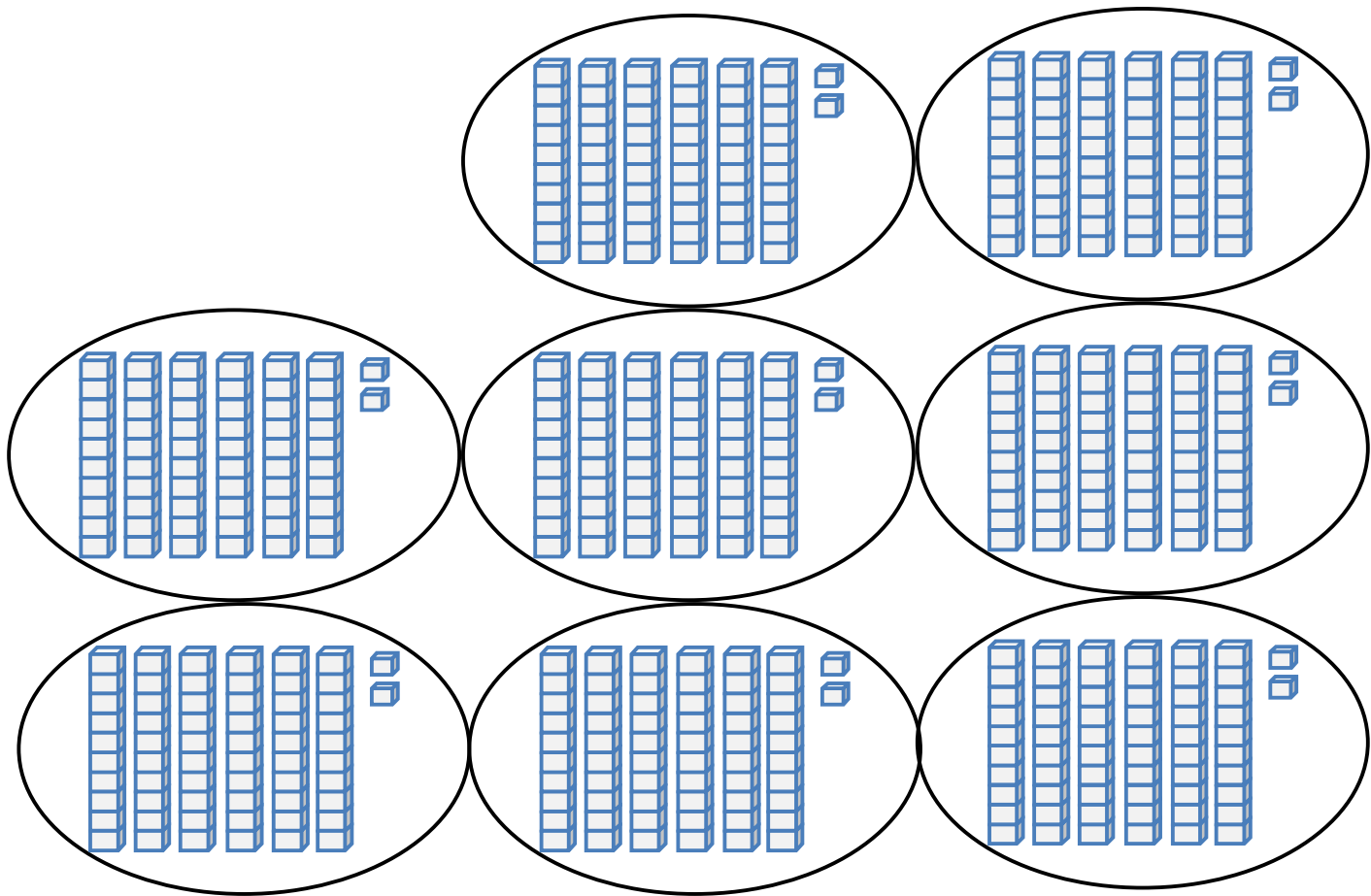
Repeated Addition

$$\begin{array}{r} 62 \\ 62 \\ 62 \\ 62 \\ 62 \\ 62 \\ 62 \\ + 62 \\ \hline 496 \end{array}$$

Traditional

$$\begin{array}{r} 1 \\ 62 \\ \times 8 \\ \hline 496 \end{array}$$

Base 10 Blocks



Guided Practice for Cooperative Work: Display the example problem that follows. Read the problem as a class, identifying important information and the question. Give students a moment to observe just the first of the possible responses. *Think, Pair, Share* if the response shown is a correct way to solve the given problem. Continue with the following responses showing one response at a time. Once students have identified a response that is not a possible solution allow them to *Think, Pair, Share* why it is incorrect, then share with class. Student should then take a few minutes to solve correctly using that strategy.

Cooperative Work: Students should be grouped into groups of 2 or 3 with each group starting at one of the problems that were placed around the room earlier. Make sure they understand that they need to begin numbering their work with the problem they have begun with. Students work as a team to identify the correct responses and in their notebook each show the work to correct any incorrect responses. Emphasize that they are to support one another and should all have the same work in their notebooks because they are talking about how to show the problem correct. Use a timer to allow students 4 minutes to complete the problem (adjust time as needed). On your signal everyone moves forward to the next problem, regardless of if they are done or not.

Time Permitting, Extended the Activity- After each group has completed each of the problems, allow each group to take one of the problems and show a way to solve that was not shown.

Example: Ms. Nelson has 5 textbooks for each student. There are 26 students in the class. How many textbooks are in the class?

Which of the following responses below are possible solutions?

A. $26 + 26 + 26 + 26 + 26 =$

B.
$$\begin{array}{r} 26 \\ \times 5 \\ \hline 30 \\ + 100 \\ \hline 130 \end{array}$$

C. $(20 \times 6) + (5 \times 6) =$

D.

26	26	26	26	26
?				

For incorrect solution(s), show the correct solution using that same method to solve.

1. Students are divided into groups of 6 to visit the museum. There are 13 groups. How many students in all are visiting the museum?

Which of the following responses below are possible solutions?

E. $13 + 13 + 13 + 13 + 13 =$

F.
$$\begin{array}{r} 13 \\ \times 6 \\ \hline 18 \\ + 60 \\ \hline 78 \end{array}$$

G. $(13 + 6) \times (13 + 6) =$

H.

13	13	13	13	13	13
?					

For incorrect solution(s), show the correct solution using that same method to solve.

2. Apples are packed into trays of 12. Each box holds 4 trays. How many apples are in each box?

Which of the following responses below are possible solutions?

I.

$$4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 =$$

J.

$$\begin{array}{r} 12 \\ \times 4 \\ \hline 40 \\ + \quad 8 \\ \hline 48 \end{array}$$

K. $(12 \times 2) \times (12 \times 2) =$

L.

12	12	12	12
?			

For incorrect solution(s), show the correct solution using that same method to solve.

3. An ostrich can run 66 feet in 1 second. How many feet can an ostrich run in 8 seconds?

Which of the following responses below are possible solutions?

M. $8 \begin{array}{|c|c|} \hline 480 & 48 \\ \hline \end{array} = 528$

N.
$$\begin{array}{r} 66 \\ \times 8 \\ \hline 48 \\ + 480 \\ \hline 428 \end{array}$$

O. $(60 \times 4) + (6 \times 4) =$

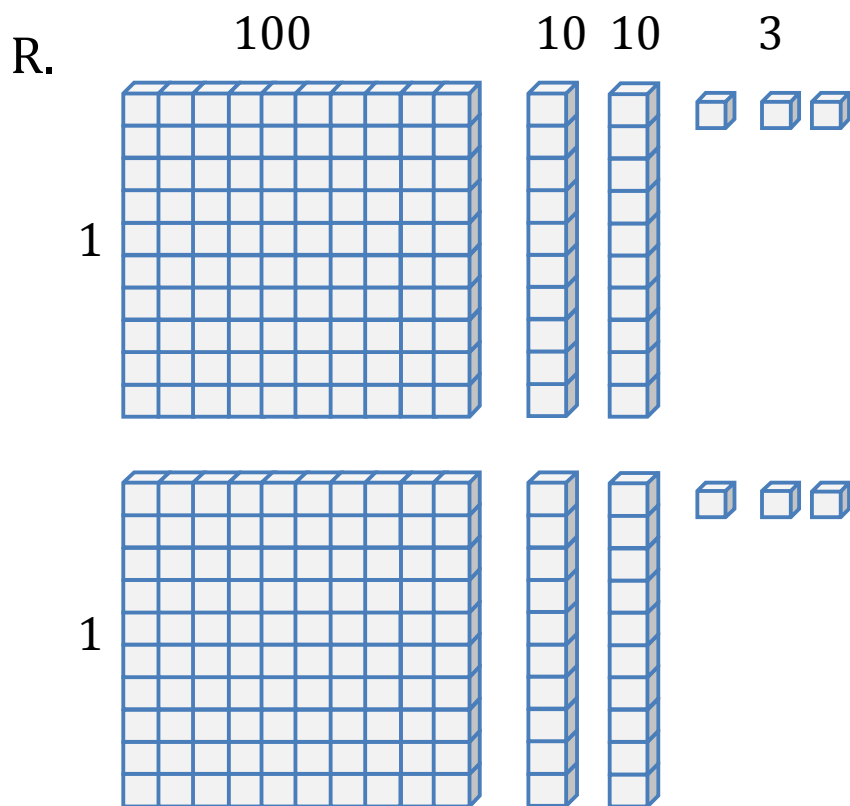
P.
$$\begin{array}{r} 66 \\ \times 8 \\ \hline 528 \end{array}$$

For incorrect solution(s), show the correct solution using that same method to solve.

4. There are 2 lines of 5th grade students. Each line has 123 students. How many 5th grade students are in line?

Which of the following responses below are possible solutions?

Q. $(100 \times 2) + (20 \times 2) + (3 \times 2) =$



S.
$$\begin{array}{r} 123 \\ \times 2 \\ \hline 245 \end{array}$$

For incorrect solution(s), show the correct solution using that same method to solve.

5. Travis bakes cupcakes 3 days a week. Each day he bakes 326 cupcakes. How many cupcakes does he bake in all?

Which of the following responses below are possible solutions?

S. $326 \div 3 =$

T. $(300 + 20 + 6) \times 3 =$

U. $(300 \times 3) + (26 \times 3) =$

V.

326	326	326
?		

For incorrect solution(s), show the correct solution using that same method to solve.

Warm-Up

CST/ #39 3NS2.4/30A7

Review: Grade

Six students were sitting at each table in the lunchroom. There are 34 tables. How many students were sitting in the lunchroom?

- A 208
- B 204
- C 188
- D 1,824

The figure below is a model for the multiplication sentence

$$2 \times 8 = 16$$

Which division sentence is also modeled by the figure?

- A $8 \div 2 = 4$
- B $10 \div 2 = 5$
- C $16 \div 4 = 4$
- D $16 \div 8 = 2$

Current

Other

Show multiple ways to solve:

$$8 \times 4$$

Circle the correct response.

1. The sum of any two even numbers is

odd even

explain your answer-

2. The sum of any two odd numbers is

odd even

explain your answer-

MULTIPLICATION METHODS

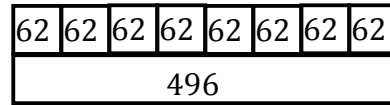
Partial Product

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Distributive Property

$$\begin{aligned} & (60 \times 8) + (2 \times 8) \\ &= 480 + 16 \\ &= 496 \end{aligned}$$

Bar Model



Area Model

$$8 \begin{array}{|c|c|} \hline 60 & + & 2 \\ \hline 480 & & 16 \\ \hline \end{array} = 496$$

Repeated Addition

$$\begin{array}{r} 62 \\ 62 \\ 62 \\ 62 \\ 62 \\ 62 \\ 62 \\ 62 \\ + 62 \\ \hline 496 \end{array}$$

Traditional

$$\begin{array}{r} 1 \\ 62 \\ \times 8 \\ \hline 496 \end{array}$$

Base 10 Blocks

